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10/697,333	10/31/2003	Georges R. Harik	0026-0056	8524

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/697,333	HARIK ET AL.	
	Examiner	Art Unit	
	Lamont M. Spooner	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. This office action is in response the applicant's submission dated 10/31/07. Claims 1-42 are currently pending and have been examined. The IDS has been considered. There is no claim to foreign priority.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-6, and 12-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Shanahan et al. (US 6,820,075)

As per **claim 1**, Shanahan teaches a method for completing fragments of text, comprising:

obtaining a text fragment (C.54 lines 42-51);

performing a search, based at least in part on the text fragment, to identify one or more documents (ibid, C.54 lines 38-41-his meta-document(s), C.55 lines 15-22, C.60 lines 45-57);

identifying sentences within the one or more documents that are associated with the text fragment (ibid, C.54 lines 64-67, C.60-lines 41-44, C.55 lines 61-65);

determining sentence endings associated with the identified sentences (ibid); and

presenting the sentence endings as potential completions for the text fragment (ibid, C.54 lines 42-51).

As per **claim 2**, Shanahan teaches the method of claim 1, wherein the text fragment is one of a partial sentence and a partial paragraph (C.60 lines 41-44).

As per **claim 3**, Shanahan teaches the method of claim 1, wherein the obtaining of a text fragment includes receiving a text fragment from a user (C.54 lines 42-51).

As per **claim 4**, Shanahan teaches the method of claim 1, wherein the obtaining a text fragment includes automatically detecting a text fragment (C.54 lines 42-51, C.55 lines 6-14).

As per **claim 5**, Shanahan teaches the method of claim 1, wherein the performing a search includes searching for documents that include the text fragment as a phrase (see claim 1, also C.54 lines 52-63, C.55 lines 61-65).

As per **claim 6**, Shanahan teaches the method of claim 1, wherein the performing a search includes searching for documents that include the text fragment and synonyms of one or more words within the text fragment (C.33 lines 42-47, Fig. 45 items 4508, 4510-his "enriched updated document content" includes annotated synonyms, and his auto-completion a based on his enriched information space/document).

As per **claim 12**, Shanahan teaches the method of claim 1, wherein the identifying sentences within the one or more documents includes determining boundaries of the identified sentences based on punctuation near the identified sentences in the one or more documents (C.60 lines 41-44-inherent to sentence endings/paragraph endings in document).

As per **claim 13**, Shanahan teaches the method of claim 1, further comprising:

trimming at least one of the sentence endings by dropping one or more words from the at least one sentence ending (C.60 lines 41-44-his

cutting to a phrase completion from sentence require the dropping, C.57 lines 60-62).

As per **claims 14 and 16**, Shanahan teaches the method of claim 13, wherein the one or more words are dropped from the at least one sentence ending based on at least one of text and one or more symbols included in the at least one sentence ending (C.60 lines 25-35-his auto-completion results based on context of sentence, out of context ending deleted, Fig. 47 item 4722 and Fig. 48 his context, C.57 lines 60-62-his symbols comprising the ignored word).

As per **claim 15**, Shanahan teaches the method of claim 14, further comprising:

generating an inverse document frequency table that includes words common to sentence endings (C.57 lines 54-64); and

wherein the trimming at least one of the sentence endings includes:

comparing the text of the at least one sentence ending to words in the inverse document frequency table (ibid), and

dropping one or more words from the at least one sentence ending based on a result of the comparison (ibid-his "ignored" auto-completion word/phrase based on Zipf's law).

As per **claim 17**, Shanahan teaches the method of claim 1, further comprising:

merging two or more of the sentence endings into a merged sentence ending (C.56 lines 50-52-his indexing of document sentence endings).

As per **claim 18**, Shanahan teaches the method of claim 17, wherein the merging two or more of the sentence endings includes:

identifying two or more of the sentence endings that have text in common, and merging the identified sentence endings (C.56 lines 50-52-his indexing of document sentence endings, common text are not duplicated, they are merged and indexed).

As per **claim 19**, Shanahan teaches the method of claim 1, further comprising:

determining quality ones of the sentence endings based, at least in part, on at least one of a table of common beginnings of sentences and a table of common endings of sentences (C.55 lines 23-33-his high confidence completion, as a table of quality of endings based on the beginnings).

As per **claim 20**, Shanahan teaches the method of claim 1, further comprising:

scoring the sentence endings (C.55.lines 22-25, his high confidence and score by rank, C.57 line 66-C.58 line 27).

As per **claim 21**, Shanahan teaches the method of claim 20, wherein the sentence endings are scored based on popularity (C.58 lines 25-27).

As per **claim 22**, Shanahan teaches the method of claim 21, wherein the popularity of the sentence endings is based, at least in part, on a number of times that the sentence endings occur within the one or more documents (C.58 lines 21-24).

As per **claim 23**, Shanahan teaches the method of claim 20, wherein the sentence endings are scored based, at least in part, on a location of where the text fragment occurs within the identified sentences (C.58 lines 19-21).

As per **claim 24**, Shanahan teaches the method of claim 20, further comprising: adjusting the scores of the sentence endings based, at least in part, on lengths of the sentence endings (C.57 line 66).

As per **claim 25**, Shanahan teaches the method of claim 20, further comprising:

adjusting the scores of the sentence endings based, at least in part, on whether at least a portion of the sentence endings are included in a list

of bad endings (C.59 lines 25-35, C.55 lines 23-25-database sentence endings scores adjusted based on rank, the lower the rank, interpreted as the list of bad endings, ie his "most appropriate endings").

As per **claim 26**, Shanahan teaches the method of claim 20, further comprising: discarding one or more of the sentence endings when at least a portion of the one or more endings in included in a list of bad endings (ibid, C.55 lines 23-25, C.59 lines 25-35, wherein the endings not included in the "most appropriate endings" are discarded, and not presented to the user).

As per **claim 27**, Shanahan teaches the method of claim 20, wherein the presenting the sentence endings includes:

ordering the sentence endings based on the scores (C.55 lines 23-30); and

presenting the ordered sentence endings as potential completions for the text fragment (ibid, his ranked list).

As per **claim 28**, Shanahan the method of claim 1, wherein the presenting the sentence endings includes:

providing the sentence endings via a pop-up window (C.55 lines 24-25-his presented list, Fig. 47).

As per **claim 29**, Shanahan teaches the method claim 1, wherein the presenting the sentence endings includes:

inserting on one of the sentence endings near a location of the text fragment (C.59 lines 35-43, and replacing the one of the sentence endings with a subsequent one or more of the sentence endings (C.59 lines 44, 45- his repeated auto-completion process).

As per **claim 30**, Shanahan teaches a system for automatically completing fragments of text, comprising:

means for receiving a text fragment (see claim 1);

means for identifying documents that include the text fragment (see claim 1, ;

means for locating sentences within the documents that include at least some of the text fragment (see claim 1, C.55 lines 60-65, C.60 lines 45-55);

means for identifying sentence endings associated with the located sentences (ibid, see claim 1); and

means for presenting the sentence endings as potential completions for the text fragment (see claim 1).

As per **claim 31**, Shanahan teaches a system for completing fragments of text, comprising:

one or more servers configured to (fig. 2 his "network file server/network):

receive a text fragment (see claim 30),

identify documents that include at least a portion of the text fragment (see claim 30),

located sentences within the document that are associated with the text fragment (see claim 30), and

determine sentence completions associated with the located sentences (see claim 30).

As per **claim 32**, Shanahan teaches the system of claim 31, wherein the one or more servers include a plurality of servers (Fig. 2 items 200, 221, his multiple servers, Fig. 5).

As per **claim 33**, Shanahan teaches the system of claim 31, wherein the one or more servers are further configured to provide the sentence completions as potential completions for the text fragment (ibid, see server discussion, see claim 30-sentence ending discussion),

As per **claim 34**, Shanahan teaches a computer device, comprising:

a memory configured to store code including (C.73 line 59-C.75 line 28 line 44):

document preparation code configure to permit a user to prepare or edit a document (ibid, C.55 lines 33, 34), and

assistant code configured to:

detect a fragment of text within the document (ibid, see claim 30),

obtain a plurality of potential sentence completions for the fragment of text (ibid, see claim 30), and

present the potential sentence completions to the user (see claim 30); and

a processor to execute the code in the memory (ibid, C.75 lines 5-10).

As per **claim 35**, Shanahan teaches the device of claim 34, wherein when obtaining a plurality of potential sentence completions, the assistant code is configured to:

generate a search query based on the fragment of text (C.55 lines 15-23),

send the search query to an external server (ibid, his transmitted query, Fig. 2 items 226, 221, 200, his external server from the components), and

receive the potential sentence completions from the server (C.55 lines 23-25, completions presented to the user).

As per **claim 36**, Shanahan teaches the device of claim 34, wherein the document preparation code includes one of word processing code, email code, and instant messenger code (see claim 34, document preparation discussion).

As per **claim 37**, Shanahan teaches the device of claim 34, wherein when detecting a fragment of text within the document, the assistant code is configured to automatically identify the fragment of text without user instruction (C.55 lines 6-14, C.58 lines 46, 47).

As per **claim 38**, Shanahan teaches the device of claim 34, wherein when detecting a fragment of text within the document, the assistant code is configured to identify the fragment of text based on user instruction (C.54 lines 45-47, C.58 lines 43, 44).

As per **claim 39**, Shanahan teaches the device of claim 34, wherein when presenting the potential sentence completions to the user, the

assistant code is configured to insert one of the potential sentence into the document and permit the user to view other ones of the potential sentence completions (C.59 lines 31-37, 44, 45-his completion preview and repeated process, C.60 lines 58-67).

As per **claim 40**, Shanahan teaches the method claim 34, wherein when presenting the sentence completions to the user, the assistant code is configured to insert one of the sentence completions into the document (C.59 lines 35-43), and replace the one potential sentence completion with a subsequent one or more of the potential sentence completions (see claim 39, also C.59 lines 44, 45-his repeated auto-completion process).

As per **claim 41**, Shanahan teaches a computer device, comprising:

a memory configured to store instructions (see claim 34); and

a processor configured to execute the instructions in the memory to:

obtain a fragment of text (see claim 34),

search for local documents that include at least a portion of the fragment of text (see claim 34, C.56 lines 55-63),

identify sentences within the local documents that are associated with the fragment of text (ibied),

determine sentence completions associated with the located sentences (ibid), and

provide the sentence completions for the fragment of text (ibid-his auto-completion suggestions, see claim 34).

As per **claim 42**, Shanahan teaches the computer device of claim 41, wherein the local documents include at least one of documents stored by the computer device and documents stored in a memory accessible by the computer device (C.56 lines 55-63-his local stored documents, C.73 lines 22-25).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shanahan as applied to claim 1 above.

As per claim 7, Shanahan teaches the method of claim 1, but lacks explicitly teaching:

determining whether the one or more documents provide sufficient results;

shortening the text fragment when the one or more documents do not provide sufficient results; and

performing a search, based at least in part on the shortened text fragment, to identify a set of documents.

However, the Examiner notes, that at the time of the invention, it would have been obvious to one ordinarily skilled in the art, that during an auto-completion mode, if there were little to none in document results, shortening the text fragment would increase the search results (for example …the search string "therapeutically" would return less documents than "ther" wherein the additional characters of the former limit the search. Therefore it would have been obvious to one ordinarily skilled in the art, at the time of the invention to modify Shanahan with shortening the search text fragment, thus providing the inherent and natural benefit of increasing results as applied to search strings, as understood in the art.

As per **claim 8**, Shanahan makes obvious the method of claim 7, but lacks explicitly teaching

wherein the one or more documents provide sufficient results includes:

counting a number of the one or more documents, and

determining that the one or more documents do not provide sufficient results when the number of the one or more documents is less than a threshold.

However, the Examiner notes that determining the sufficiency of documents requires an inherent count of the documents, wherein by definition a threshold is inherent to the concept sufficiency of document results. Therefore, at the time of the invention, it would have been obvious to one ordinarily skilled in the art to modify Shanahan with a threshold, thus providing a determination of at what point the results aren't sufficient.

6. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shanahan as applied to claim 7 above, and further in view of Risvik et al. (Risvik, US 6,377,945).

As per **claim 9**, Shanahan makes obvious dependent claim 7, but lacks explicitly teaching wherein the shortening the text fragment includes dropping one or more words from a beginning or end of the text fragment. However, Risvik teaches wherein the shortening the text fragment includes

dropping one or more words from a beginning or end of the text fragment (C.10 lines 32-41-his deleting start word). Therefore, at the time of the invention, it would have been obvious to one ordinarily skilled in the art to modify Shanahan with Risvik's possible word start sequence search providing the benefit of limiting search to only possible matches.

As per **claim 10**, Shanahan makes obvious the method of claim 7, but lacks explicitly teaching wherein shortening the text fragment includes:

identifying one or more symbols within the text fragment; and

dropping one or more words from the text fragment based on the one or more identified symbols. However Risvik teaches identifying one or more symbols within the text fragment; and dropping one or more words from the text fragment based on the one or more identified symbols (C.10 lines 32-41). Therefore, at the time of the invention, it would have been obvious to one ordinarily skilled in the art to modify Shanahan with Risvik's word deletion providing the benefit of limiting search to only possible matches.

As per **claim 11**, Shanahan makes obvious the method of claim 7, but lacks explicitly teaching wherein the shortening the text fragment includes:

analyzing a structure of the text fragment; and

dropping one or more words from the text fragment based on the analysis.

However Risvik teaches analyzing a structure..., dropping one ...based on the analysis (C.8 lines 53-67, C.10 lines 32-41, abstract). Therefore, at the time of the invention, it would have been obvious to one ordinarily skilled in the art to modify Shanahan with Risvik's word deletion providing the benefit of limiting search to only possible matches.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Kadashevich et al. (US 5,369,577) teaches query based on synonym and fragment search in a document.
- Kraft et al. (US 7,149,550) teaches sentence completion.
- Connelly et al. (US 2004/0225647) teaches removing search query components based on a bad word list.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lamont M. Spooner whose telephone number is 571/272-7613. The examiner can normally be reached on 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on 571/272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

lms
10/26/07

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